

CLAIMS

1. A Line driver arrangement comprising:

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(a) a class-D switching amplifier having a switching frequency, said class-D amplifier receiving an input transmit signal and outputting an amplified transmit signal;

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(b) a transformer having a predetermined leakage inductance for receiving the amplified transmit signal and outputting a transformed signal as an output transmit signal;

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wherein the leakage inductance is predetermined for low pass filtering of the amplified transmit signal.

2. Line driver arrangement according to claim 1, wherein the leakage inductance is predetermined to minimize a resonance at a resonance frequency in the power spectral density of the line driver arrangement, wherein the resonance is caused by the switching frequency of the class-D amplifier.

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3. Line driver arrangement according to claim 1, wherein the signals are dual line signals, the class-D amplifier and the transformer each have two input terminals and two output terminals and are connected in series through a dual line.

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4. Line driver arrangement according to claim 3, wherein the dual line signals are ADSL signals being discrete multitone modulated signals.

5 5. Line driver arrangement according to claim 1, wherein at least one capacitance is connected between the two lines between the class-D amplifier and the transformer.

10 6. Line driver arrangement according to claim 1, wherein two capacitances are connected in series between the two lines between the class-D amplifier and the transformer, and wherein a node between the two capacitances is connected to a reference voltage.

15 7. Line driver arrangement according to claim 5, wherein the leakage inductance and the capacitances form a low pass filter having a cutoff frequency that is lower than the resonance frequency.

20 8. Line driver arrangement according to claim 1, wherein the transformer further has a stray capacitance that is predetermined to minimize the resonance in the power spectral density of the line driver arrangement.

25 9. Line driver arrangement according to claim 1, wherein a low pass filter is coupled between the class-D amplifier and the transformer.

30 10. Line driver arrangement according to claim 1, wherein the line driver has a power spectral density that complies with an ADSL and/or ADSL+ standard.

11. Line driver arrangement according to claim 1,
wherein the line driver is part of an ADSL transceiver.

12. Line driver arrangement according to claim 1,
5 wherein the line driver arrangement further comprises
resistances and/or inductances.

13. Transformer for use in a line driver arrangement,
said line driver arrangement comprising an amplifier for
10 receiving an input transmit signal and outputting an
amplified transmit signal and wherein the transformer
has a predetermined leakage inductance and/or stray
capacitance, and the leakage inductance and/or stray
capacitance is predetermined for low pass filtering of
15 the amplified transmit signal.

14. Transformer according to claim 13, wherein the
amplifier is a class-D switching amplifier having a
switching frequency.